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MAR 25 1975

G. E. INSKEEP

Date: March 20, 1975

ME ✓
3-25-75

• Dr. G. E. Inskeep

• N. B. Rainer

Subject: • OZONE-TREATED SMOKING MATERIALS PM#626

The following information is submitted in response to your letter of December 6, 1974, on the above-identified Invention Record.

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With regard to the prior art, there is no disclosure of the use of ozone in Siegel, the ICI patents, the Sutton patents, or patents involving oxidized cellulose. From a product standpoint, Siegel, the ICI patents, and the Sutton patents relate to thermally degraded cellulose materials which are black, brittle, and non film-forming. Oxidized cellulose of the prior art is produced by treatment of cellulose with NO_2 . This selectively oxidizes the primary hydroxyl groups and causes little decrease in the molecular weight of the cellulose. The resultant products are consequently still insoluble in water and may contain undesirable residual amounts of NO_2 or nitrogen-containing reaction products. By way of comparison, the ozone treatment of the present invention causes extensive decrease in molecular weight, and the resultant product is a generally colorless water-soluble, film-forming material. In fact, of the several prior art sources mentioned, none have as their purpose the treatment of a material intended to function as a film-former.

I am not familiar with the details of PM #641 and therefore cannot compare the present invention with that of PM #641.

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The ozone treatment of the present invention will not be effective if applied to the cellulose starting materials employed in the above-mentioned prior art references because cellulose is not readily converted to a film-forming material, even with extensive ozone treatment. The starting material utilized in the practice of the present invention is either a film-forming polysaccharide or a polysaccharide which, by virtue of the ozone treatment becomes a film-former. Most of the experimental work has been carried out on a pectin-containing natural material known as lemon albedo. The improvements in subjective smoking characteristics have been quite impressive and completely unexpected.

There is only one commercially feasible method of ozone generation; namely by use of corona discharge devices described in the disclosure.

I will be glad to provide whatever further information may be necessary to expedite the handling of this Invention Record.

NB Ramin

/ev

cc: Dr. D. A. Lowitz

P.S.: Returned herewith is the draft of the patent application containing corrections and additions. Further information will be submitted for Example 2.

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